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# Sleep Medicine

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## Editorial

### Introduction to the special issue: pediatric sleep medicine in Canada



We are excited to launch a series of special issues of *Sleep Medicine* focused on “Pediatric Sleep Around the World”. As the official journal of the World Association of Sleep Medicine and the International Pediatric Sleep Association, *Sleep Medicine* seeks to be the voice of pediatric sleep research and clinical practice throughout the world. The objective of this series of special issues is to create a unique platform to highlight and strengthen the international exchange of knowledge pertaining to pediatric sleep. By drawing upon the leadership provided by *Sleep Medicine*, we aim to contribute to the advancement of sleep education, research and patient care worldwide.

The first issue in this series focuses on Canada—a country whose multiculturalism, pluralism, and geographic size and diversity make it an ideal starting point for an international, multi-country dialog amongst pediatric sleep experts. This editorial will describe several unique features of Canada’s approach to health and disease, and how these are reflected (and perhaps have shaped) some key contributions made by Canadian sleep experts.

Canadians pioneered the idea of expanding the view of health beyond the medical model to include lifestyle behaviors and related health—promotion activities as core components of health. This view was later expanded into the Ottawa Charter for Health Promotion. This international agreement was signed at the First International Conference on Health Promotion, which was organized by the World Health Organization (WHO) and took place in November 1986 [1,2]. Since then, this expanded view of health has been incorporated to multiple charters adopted by countries around the world.

The current Canadian Framework for Health Promotion emphasizes that “health promotion implies a commitment to dealing with the challenges of reducing inequities, extending the scope of prevention, and helping people to cope with their circumstances. It means creating environments conducive to health, in which people are better able to take care of themselves, and to offer each other support in solving and managing collective health problems” [3].

This special issue of *Sleep Medicine* presents a number of voices and initiatives that echo such a perspective. The first section focuses on the promotion of healthy sleep among children and adolescents. **Chaput** calls for the pediatric sleep community to expand the concept of sleep health to a “holistic vision of health and provide a metric for health promotion efforts at the individual and population level”. He suggests that we need to focus more clearly on sleep health, and argues that this view should involve placing sleep characteristics on a continuum, thereby contrasting with the perspective of sleep disease or sleep health as the presence or absence of a sleep disorder. Consistent with this perspective, Chaput describes recent developments in the integration of sleep health into the surveillance activities of the Public Health Agency of Canada, a government agency that oversees public health

and the control/prevention of infectious and chronic disease. This represents a significant step forward in recognizing the importance of sleep health and prioritizing it in Canada. Accordingly, Canadian pediatric sleep researchers have been active in their efforts to promote sleep health among our youth. One line of work presented in this special issue by **Gruber et al.** calls for sleep health promotion by integrating sleep education within Canadian schools. This view suggests that schools are an ideal setting for health promotion programs because they can reach large segments of the youth population, provide a cost-effective platform for health education and promotion, and actively encourage children to adopt and maintain a healthy lifestyle. The group describes their efforts, including their challenges, barriers and successes, in the province of Quebec. Another active attempt to promote healthy sleep among Canadian youth is presented by **Patte et al.**, who documented sleep and daytime outcomes of advancing and delaying school start times in secondary schools of Ontario. Patte et al. provide data from a recent longitudinal population-based study of school start times in Canada. They compared how small changes in school start time of publicly funded Ontario secondary schools impacted the sleep, physical activity and screen time exposure of students. Thirteen start time changes of 5–10 min were reported. The authors found that the 10-min delay was associated with additional sleep, that the 5-min delay was associated with increased physical activity, and that the advances were associated with decreased physical activity. This study shows that small, feasible changes to school start times could be used to promote sleep health.

Another distinctive feature of the Canadian health care system is that it is publicly funded; universal coverage is provided for medically necessary health care services on the basis of need rather than the ability to pay. The second part of this special issue provides insights and information regarding the provision of pediatric sleep services as part of the Canadian publicly funded health care system.

The fact that all Canadian have access to medically necessary hospital and physician services without financial or other barriers is a great strength and a source of Canadian pride. **McLean’s** article in this special issue illuminates the wide range of contributions that Canadian pediatric sleep experts have made in the context of this system, such as by identifying risk factors and biomarkers for pediatric Obstructive Sleep Apnea (OSA) and developing practical tools for screening and assessing risk for OSA and managing pediatric OSA. **Corkum et al.** provide a comprehensive overview of the Canadian context, including a detailed description of the Canadian provinces and territories, the structural components used to provide health services, the sleep challenges of Canadian youth and their implications regarding mental health, and an overview of the training and services available for pediatric sleep disorders. The authors also review several Canadian initiatives in pediatric sleep.

Although proud of their publicly funded health care system, Canadians also recognize that there are major challenges, needs and gaps in providing pediatric sleep services and training. Both McLean and Corkum note that the existing pediatric sleep resources in Canada are inadequate to meet the needs of the population. One key challenge is related to the shortage of trained health care professionals. As explained by **Katz et al.**, Canada had no formal pathway or specific requirement for pediatric sleep disorder medicine training until 2018, when the Royal College of Physicians of Canada approved an Area of Focused Competence program for certifying and maintaining competence in Sleep Disordered Medicine. This program is designed to ensure adequate breadth and depth among the training experiences available in this diverse field. In this special issue, **Katz** provides information regarding the goals of this program, its requirements and the improvements it is expected to yield in the field of pediatric sleep medicine in Canada. Foremost among them will be ensuring that a critical mass of trained sleep medicine physicians is developed to meet the needs of Canadian children.

Although it is encouraging that an adequate number of well-trained pediatric sleep health care providers will be created in the coming years, there is currently a significant shortage and maldistribution of these professionals across Canada. Several initiatives described in this special issue highlight the creative ways in which Canadian pediatric sleep experts have developed solutions and increased access to evidence-based care for pediatric sleep disorders, with the goal of overcoming this shortage without compromising the quality of the evidence-based care that is delivered. **Hall et al.** describe evidence-based strategies for the dissemination of empirically supported interventions for infant behavioral sleep problems. The authors provide a detailed step-by-step description of the process used to develop, implement and evaluate a tailored, evidence-based tool to treat behavioral insomnia in infants. This program is intended to meet the needs of the community and equip all parents in the Niagara Region with the knowledge, skills, and resources needed to help their children and families thrive. Another approach to overcoming the shortage in access to evidence-based care for behavioral insomnia is described by **Corkum et al.** in their article on the development of an E-health intervention positioning sleep as a healthy behavior needed for positive child health outcomes. **McLean** describes the joint initiative of the Canadian Thoracic Society and Canadian Sleep Society to support improvements in access and clinical care by developing national guidelines for the diagnosis of pediatric OSA. **Van Voorst et al.** provide an overview of the steps taken by the Canadian Sleep Society to support this effort and improve research, clinical care, educational initiatives and advocacy for sleep and sleep medicine.

In addition to ensuring health promotion, education and clinical care, Canadian pediatric sleep researchers have worked towards gaining a better understanding of the interplay between sleep and physical and mental health in typically developing and vulnerable youth. Four manuscripts in this special issue describe unique data related to the interplay between mental health and sleep in youth. **Langevin et al.** documented the sleep disturbances of teenagers under Child Welfare Society admittance to residential facilities. They show that a history of sexual abuse is associated with sleep disturbances over and beyond gender influence and the presence of mental health symptoms. **Boafo et al.** examined significant sleep abnormalities in youth who have been hospitalized in a mental health unit for a suicidal crisis. **Nielsen et al.** found that self-reported adversity occurring early in life is associated with nightmare severity and sleep spindle anomalies. **Robillard et al.** reveal that there are subtle respiratory disturbances in depressed

adolescents and suggest that these changes may contribute to the persistent depressive symptoms and treatment resistance of these adolescents. Collectively, these reports highlight the importance of integrating sleep assessment and interventions within the services provided to vulnerable youth presenting with physical trauma or mental health challenges.

Finally, **Garipey et al.** investigated the associations between chronotype and various health outcomes and behaviors in a national sample of Canadian adolescents. Their results demonstrate that a later chronotype is related to more physical health and unhealthy behaviors in Canadian youth compared with an earlier chronotype.

Members of the Canadian pediatric sleep medicine community recognize the contributions made by international pediatric sleep leaders. In this Special Issue they express their genuine appreciation for the inspiration, contributions and leadership of the late Dr. Avi Sadeh and Carole Marcus to pediatric sleep research, education and clinical work.

Collectively, the manuscripts in this special issue of *Sleep Medicine* paint a picture of a dynamic community of pediatric sleep experts who are working towards ensuring healthy sleep for all Canadian children in a diverse society that strives to maximize access to pediatric sleep care in the face of limited resources. This includes developing the tools and resources to address needs and unique circumstances, disseminating these findings to other countries that might be facing similar challenges and goals, and producing research that helps address many of the pressing questions being asked by the global pediatric sleep community.

This first special issue on Pediatric Sleep in Canada and the others that will appear in the next few years will testify to the incredible development of pediatric sleep medicine around the world. The aim of these special issues will be to extend the frontiers of the pediatric sleep field but also to help Pediatricians and other primary care providers stay up to date on new findings and to integrate these findings and concepts in their daily practice.

### Conflict of interest

The ICMJE Uniform Disclosure Form for Potential Conflicts of Interest associated with this article can be viewed by clicking on the following link: <https://doi.org/10.1016/j.sleep.2019.02.004>.

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